REMARKS

Claims 8, 9, 17, 18 and 20-23 have been cancelled without prejudice. Claims 1, 2, 15 and 24 have been previously presented. Claims 1-7, 10-16, 19 and 24 remain before the Examiner for reconsideration.

In the Office Action dated September 10, 2003, the Examiner withdrew the rejection of claims under 35 U.S.C. Section 112, second paragraph and the rejection of the claims under 35 U.S.C. Section, 102(b) as being anticipated by Takahashi in view of Applicant's remarks in the Amendment filed June 10, 2003. However, the Examiner further asserted that "after a new search, the Examiner has found additional prior art when renders the invention as currently claimed unpatentable."

In that regard, the Examiner rejected claims 1 - 7, 10 - 16, 19 and 24 under 35 U.S.C. Section 103(a) "as being unpatentable over Takahashi et al. (US 5,928,778) in view of O'Dell (US 5,866,209).. Specifically, the Examiner asserted that:

> Takahashi teaches a decorative material which is excellent in flexibility and abrasion resistance (Abstract). The decorative material of this invention can be used for various purposes such as decorating surfaces of buildings, vehicles, ships, furniture, musical instruments, cabinets and decorating wrapping materials (column 11, lines 50 - 55).
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> As to claims 1, 15 and 24, Takahashi teaches a material including a substrate and an abrasion resistant coating layer. Takahashi teaches that substrate can be a paper, plastic film or sheet, or metallic foil or plate (column 1, lines 66 - 67). It is preferable to use a flexible material as the substrate (column 2, line 5). Takahashi teaches that the substrate can be a composite substrate which can be obtained by laminating two or more substrates by any known means, for instance, by the use of an adhesive agent, or by effecting thermal fusion (column 2, lines 66 - 67 and column 3, lines 1 - 3). The composite substrate comprising two or more substrates is equated to Applicant's "inner protective layer", "base material", "bonding material", "decorative material" and "outer decorative layer". Takahashi teaches that substrate can be a paper, plastic film or sheet, or metallic foil or plate (column 1, lines 66 - 67). Examples of the types of paper are tissue paper, craft paper, titanium paper, linter paper, cardboard, plasterboard paper, raw fabric of so-called vinyl wall paper, high-grade paper, coated paper, art paper, vegetable parchment, glassine paper, animal

parchment, paraffin paper and Japanese paper. In addition, paper-like sheets can be used as the substrate such as woven or nonwoven fabrics produced from inorganic fibers such as glass fiber, alumina fiber, silica fiber and carbon fiber or organic fibers such as polyester of Vinylon (column 2. lines 15 - 27). A plastic sheet can be used as a substrate in the form of an acrylic film (column 2, lines 36-37). Due to the fact that a composite substrate can be used, one embodiment of Takahashi, a composite substrate of 4 layers can be used. For instance, Takahashi teaches a "base material" bonded to an "inner protective layer", a "bonding material" bonded to the second side of the base material, a "decorative layer" such as a paper or a paper-like sheet bonded to the "base material" and an abrasion resistant coating layer, or "outer protective layer", on the opposing side of the "decorative layer". In one embodiment of Takahashi, the "inner protective layer", the "bonding material" and "outer protective layer" can be comprised of acrylic film (column 2, lines 37 - 40).

Takahashi teaches that the substrate can be a composite substrate which can be obtained by laminating two or more substrates by any known means, for instance, by effecting thermal fusion (column 2, lines 66 - 67 and column 3, lines 1 - 3). Therefore, in the embodiment where the "inner protective layer", the "bonding material" and "outer protective layer" are acrylic films, any application of thermal fusion to the acrylic films would bond the "base material" and the "decorative layer" together to created the desired composite of the Applicant.

However, as to claims 1, 15 and 24, Taskahashi fails to teach that acrylic film which bind the layers together can be in the form of an aqueous acrylic polymer dispersion medium which is applied wet and bonds upon drying.

O'Dell is directed to a process for producing aesthetic surface layer composition. O'Dell teaches that decorative laminates have been conventionally made by stacking a plurality of layers of paper impregnated with thermosetting resins such as acrylic. Conventional laminates are made of three essential layers: a core layer, a decorative layer and surface layer (column 1, lines 20 -35). The resin can be in the form of an aqueous dispersion of polymer particles in water (column 3, lines 25 - 33). The decorative laminate is coated and impregnated on an exterior surface at a rate which results in all the sheets being saturated and, afterwards, dried (column 7, lines 28). It should be noted that acrylic is inherently water resistant and translucent as required by claims 5 - 7 and 19.

It would have been obvious to one of ordinary skill in the art to use the aqueous dispersion of acrylic polymer as suggested by O'Dell to create the composition of Takahashi motivated by the desire to completely saturate the composite in a single step operation creating a durable composite.

> As to claims 2 and 3, Takahashi teaches that the "base material" can be made out of a paper-like sheet such as a nonwoven comprising fibers such as carbon or alumina fibers (column 2, lines 21 - 26), which are known in the art to be high in strength.
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> As to claim 4, Takahashi teaches that the substrate can be a composite substrate which can be obtained by laminating two or more substrates, therefore, an additional paper-like layer such as a "woven backing" could be attached to the "base material".
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> As to claims 10, 11 and 16, Takahashi teaches that the "decorative layer" can be comprised of paper. Vegetable parchment paper among other papers (column 2, lines 14 - 26) typically has a textured finish and can have a generally random wrinkled pattern. Takahashi also notes that is possible to use a substrate having a rough or three-dimensional pattern (column 2, lines 9- 14).
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> As to claim 12, Takahashi teaches that the "decorative layer" can be a board such as veneer (column 2, lines 45 - 50), which has a hard finish.
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> As to claim 13, Takahashi teaches that the "decorative layer" can be a paper such as vegetable parchment paper (column 2, lines 14 - 26), which has a smooth or calendared finish.
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> As to claim 14, Takahashi teaches that the "decorative layer" can be a paper-like material such as a woven fabric comprising alumina and carbon fibers (column 2, lines 21 - 27). A paper- like material implies a smooth or semi-smooth surface, therefore, the woven fabric would have to be woven tightly to give a smooth appearance. The "decorative layer" would have a hard finish due to fiber content of high strength rigid fibers.

Applicant respectfully traverse the Examiner's rejection.

Takahashi et al. discloses a decorative material quite dissimilar from the composite material of the present invention. In that regard, the decorative material of Takahashi et al. must have a relatively high abrasion resistance to make it useful for various purposes including "decorating the surfaces of buildings, vehicles, ships, furniture, musical instruments, cabinets and the like, and also for decorating wrapping materials." Col. 11, lines 50-57. To achieve the high abrasion resistance the material of Takahashi et al. includes an "abrasion-resistant" coating formed on a substrate. The abrasion-resistant coating includes spherical inorganic particles having a defined particle diameter and hardness and a binder material including a crosslinkable resin. The crosslinkable resin can be a thermosetting resin such as a two-pack urethane resin, an epoxy resin, an alkyd resin

or an unsaturated polyester resin. Col. 5, lines 42-45. The crosslinkable resin of Takahashi et al. is preferably, however, an ionizing radiation-curing resin (cured via irradiation with ionizing energy) such as "unsaturated polyester resin, compounds having (meth)acryloyl group [monofunctional (meth)acrylate, polyfunctional (meth)acrylate, urethane (meth)acrylate, polyester (meth)acrylate, epoxy (meth)acrylate, etc.], vinyl compounds [styrene, divinylbenzene, etc.], allyl compounds [diallylphthalate, etc.], and mixtures of two or more of these compounds." Col. 6, lines 1-7.

Thus, unlike, the bonding/binding layer and outer layer materials of the present invention, which are formed from an aqueous acrylic polymer dispersion medium upon drying, the polyfunctional meth(acrylate) of Takahashi et al. is an ionizing-radiation-curing (that is, cross-linking) resin.

Moreover, the teaching in Takahashi et al. that the substrate thereof can be a composite substrate which can be obtained by laminating two or more of the various substrates listed in Takahashi et al. does not disclose or suggest the composite material of the present invention in which at least one layer of base material has on a first side thereof at least one inner protective layer of a flexible material including an aqueous acrylic polymer dispersion medium, and in which at least one decorative layer is bonded to base material on the other side thereof using an aqueous acrylic polymer dispersion medium which bonds upon drying.

Applicants respectfully assert that the Examiner's assertion that "it would have been obvious to one of ordinary skill in the art to use the aqueous dispersion of acrylic polymer as suggested by O'Dell to create the composition of Takahashi motivated by the desire to completely saturate the composite in a single step operation creating a durable composite" is erroneous. Initially, there is absolutely no motivation in either Takahashi et al. or O'Dell et al. for combination thereof. See, for example, *Ex parte* Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (P.O. Bd. Appl. 1984) ("The prior art must provide a motivation or reason for a worker in the art without the benefit of appellant's specification to make the necessary changes in the reference device."); Schenk v. Norton, 218 USPQ 698, 702 (Fed. Cir. 1983) ("Modification unwarranted by the

disclosure of a reference is improper."); Ex Parte Acosta, 211 USPQ 636, 637 (P.O. Bd. Appls. 1980) (Examiner's combination of two references is improper where there is no basis in the record from which it can reasonably be inferred that one skilled in the art would have been led or motivated to modify the primary reference in the manner proposed by the Examiner.). For example, the surface of the materials of Takahashi et al. requires a reactive, cross-linkable resin of very high abrasion resistance. The resins of O'Dell et al., on the other hand, are not reactive, cross-linkable resins, but thermosetting or thermoplastic materials that melt and flow upon heating.

In any event, the disclosure of O'Dell et al. does not overcome the deficiencies of Takahashi et al. set forth above. In that regards, unlike the present invention, O'Dell et al. discloses a process for forming a decorative laminate suitable for counter tops, wall panels, floor surfacing, tabletops and the like. See Col. 1, lines 12-16. O'Dell et al. does not disclose or suggest a bonding material and an outer protective layer that include an aqueous acrylic polymer dispersion medium which is applied wet and bonds upon drying as claimed in the present invention. O'Dell et al. sets forth at Col. 1, lines 20-38 that:

> Decorative laminates have been conventionally made by stacking a plurality of layers of paper impregnated with thermosetting resins. Conventional laminates are made of three essential layers: a core layer, a decorative layer, and surface layer. The core or backing layer constitutes a bottom or supporting layer onto which the other layers are bonded. In high pressure laminates, the core layer consists of a plurality of core sheets (for example, three to eight) made from phenolic resin impregnated cellulosic sheets such as kraft paper. Upon the core layers lies a decor sheet impregnated with melamine resin or some other desired impregnating resin such as phenolic, amino, epoxy, polyester, silicone, acrylic and diallyl phthalate resins to name but a few. In low pressure laminates the core layer is more often a sheet of particle board, normally in the range of 3/8 inch to 1 inch thick. It is possible for the core layer for either high or low pressure laminates to made from materials other than paper or particle board, such as cloth (e.g. linen or canvas), wood or mat materials.

As set forth on at Col. 3, lines 57-62, the impregnating resin (12) and the coating resin (14) of O'Dell et al. must melt and flow under heat and pressure. During the laminating process, pressure and relatively high heat are applied (see, for example,

Figure 2B, setting for a pressure of 1000 psi and a temperature of 270°F) to a coated decorate sheet to produce a decorate laminate sheet (P in Figure 2B). After the laminating process, the decorate layer includes a surface layer of the coating resin (14) and a second layer of the impregnating resin (12), which resides almost entirely below the surface, within the sheet of the decorate laminate. The decorate laminate sheet is then laminated under heat and pressure to the backing layers to produce a decorative laminate (Q in Figure 2B). Col. 4, lines 30-53. The creation of the surface layer and the bonding which occurs between layers in O'Dell et al. is a result of the melting and flowing of thermosetting or thermoplastic polymers under relatively high heat and pressure. Once again, O'Dell et al. does not disclose or suggest the use of a bonding material and outer protective layer include an aqueous acrylic polymer dispersion medium which is applied wet and bonds upon drying without further processing as claimed in the present invention.

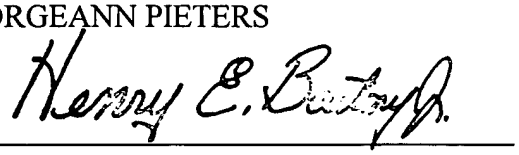
Takahashi et al. indicates that a composite substrate for use therein can be obtained by laminating two or more substrates "by any known means, for instance, by the use of an adhesive agent, or by effecting thermal fusion" Col. 2, line 66 to Col. 3 line 3. The disclosure of O'Dell et al. merely sets forth a process of lamination via thermal fusion. One of ordinary skill in the art would not and could not combine the teachings of Takahashi et al and the teachings of O'Dell et al. to arrive at the present invention.

Furthermore, unlike the materials of Takahashi et al. and O'Dell et al., the aqueous acrylic polymer dispersion media of the present invention are very safe materials that are quite easy to work with – generally applied as a wet aqueous dispersion and allowed to dry. Indeed, such media are commercially available as artists' media. Such materials would be unusable in the articles of Takahashi et al. and O'Dell et al Unlike, the materials of Takahashi et al. and O'Dell et al., the composite materials of the present invention can be used in the manner of traditional fabrics. Likewise, and unlike the materials of Takahashi et al. and O'Dell et al., the composite materials of the present invention are equally well suited for commercial mass production or for home production/use by individuals.

In view of the above remarks, Applicant respectfully requests that the Examiner withdraw rejection of the claims set forth in the Office Action of September 10, 2003, indicate the allowability of these claims and arrange for an official Notice of Allowance to be issued in due course.

Respectfully submitted,

GEORGEANN PIETERS



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